

Application No. 10/710,884
Amendment dated November 25, 2005
Reply to Office Action of September 2, 2005

Docket No.: 22040-00034-US1

AMENDMENTS TO THE CLAIMS

1. (Original) A method of soldering a semiconductor part, comprising the steps of:

printing a cream solder on a land on a circuit substrate;

mounting a semiconductor part in which a metal terminal is formed on a back surface and a side surface on said cream solder so that only a back surface portion of said metal terminal is in contact with said cream solder; and

performing solder joining of said land and said semiconductor part by irradiating a side surface portion of said metal terminal with laser beams.

2. (Original) The method of soldering a semiconductor part according to claim 1, wherein in said step of performing solder joining, cold air is supplied to a surface of said semiconductor part on which said metal terminal is not formed.

3. (Original) The method of soldering a semiconductor part according to claim 2, wherein temperature conditions are set so that a difference between a temperature near said metal terminal which is irradiated with said laser beams and a temperature near the surface to which said cold air is supplied becomes within a prescribed temperature.

4. (Original) A mounted structure of a semiconductor part, wherein on a land of a circuit substrate, a semiconductor part having a metal terminal on a back surface and a side surface is mounted, via a cream solder printed on said land, so that almost all area of said land is opposed to a mounting surface of said semiconductor part and said land and said semiconductor part are solder jointed by irradiating a side surface portion of said metal terminal with laser beams.

5. (New) A mounted semiconductor structure produced by the method of claim 1.

6. (New) A method of soldering a heat sensitive semiconductor part incapable of being passed through a reflow furnace to a circuit substrate, the method comprising:

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printing a cream solder on a land on the circuit substrate;

providing a heat sensitive semiconductor part incapable of being passed through a reflow furnace, wherein the semiconductor part has a metal terminal formed on both a back surface portion and a side surface portion of the semiconductor part;

mounting the back surface portion of the metal terminal on said cream solder so that only the back surface portion of said metal terminal is in contact with said cream solder;

irradiating only the side surface portion of the metal terminal with a laser beam; and

solder joining the land and said semiconductor part together.

7. (New) The method of claim 6, further comprising supplying cold air to a top surface of the heat sensitive semiconductor part on which the metal terminal is not formed and protecting the heat sensitive semiconductor part from a soldering heat-induced failure.

8. (New) The method of claim 7, further comprising maintaining a temperature difference between the top surface of the semiconductor part and the side surface portion of the metal terminal in a prescribed range.

9. (New) A semiconductor device produced by the method of claim 6, the device comprising:

the circuit substrate; and

the heat sensitive semiconductor part mounted by solder onto the circuit substrate, wherein the heat sensitive semiconductor part is incapable of being passed through a reflow furnace.